Traditional S Graphics Exercises

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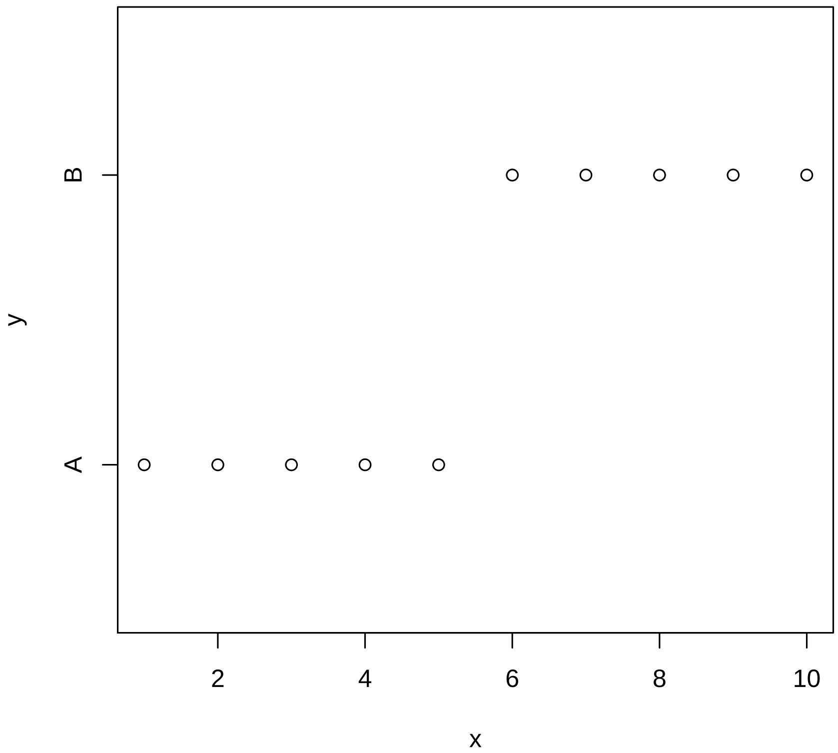
1. **[easy]** *R-help, 4/2/03, Michael Fugate*

   Given the following data, produce a plot that looks like the figure below. The relevant features are the tick marks on the y-axis and the vertical positioning of the data symbols.

```
> x <- 1:10
> y <- as.factor(rep(c("A", "B"), c(5, 5)))
```

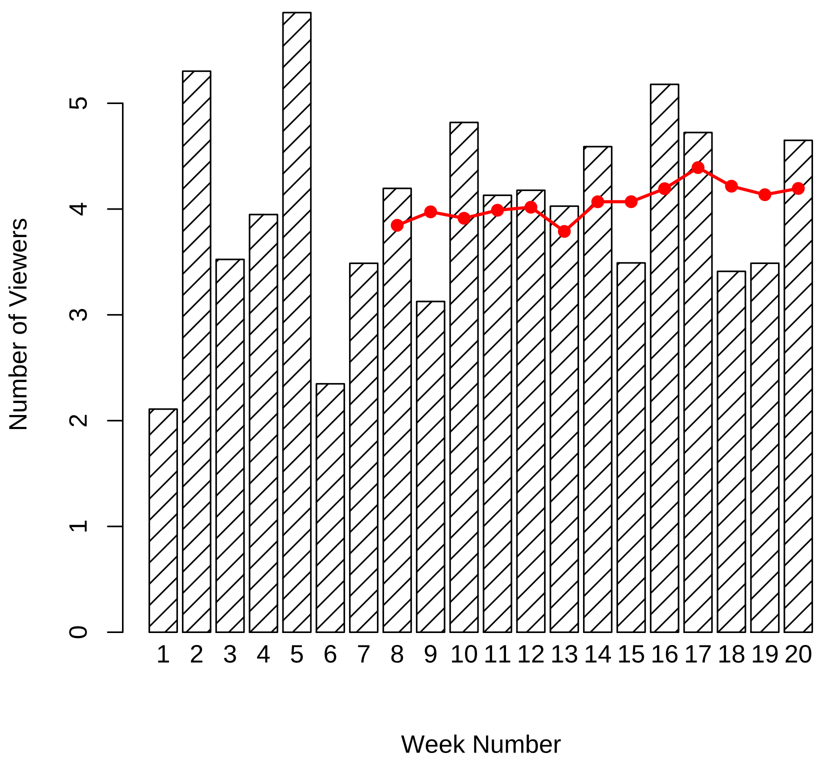


2. **[easy]** *R-help*

The following data represent a value recorded regularly over time (e.g., television viewing figures). The variable `v` contains the raw values, and `mean.8` contains "moving average" values (for week i, the moving average is average of weeks $i-7, i-6, ..., i$).

```
> v <- rnorm(20) + 4
> mean.8 <- rep(0, length(v) - 7)
> for (i in 1:length(mean.8)) mean.8[i] <- mean(v[i:(i + 7)])
```

Produce a plot like the one below, with the moving average values overplotted on the barplot. The axis labelling is also nonstandard.



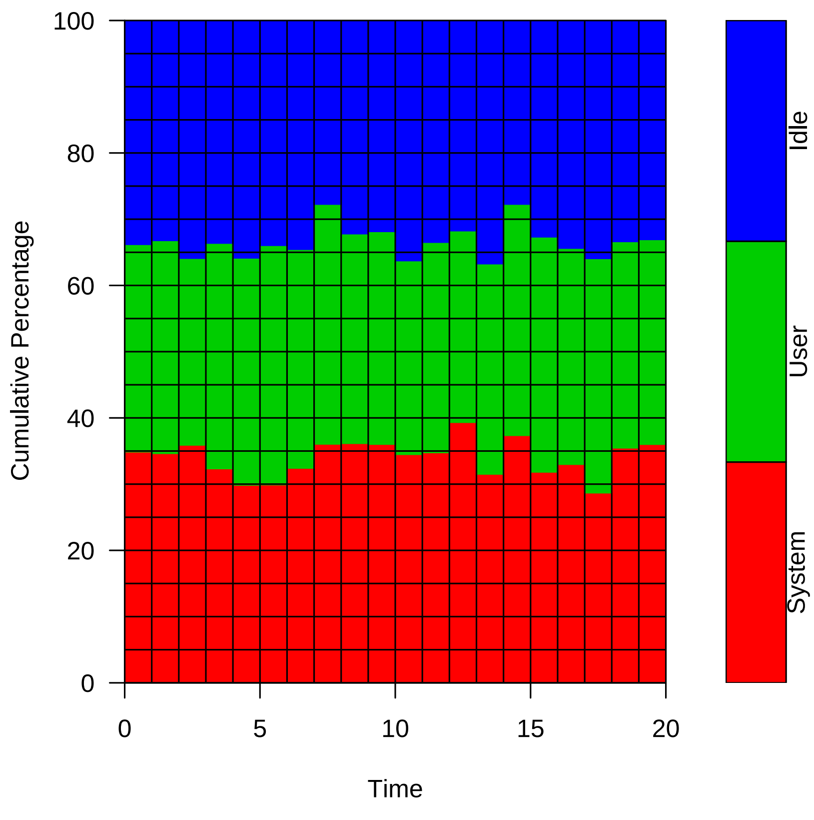
3. **[medium]** *R-help, 7/1/02, Ross Ihaka*

The aim is to create something like a "CPU graph" where several different values which always sum to 100 (like system, user, and idle time on a computer CPU) are plotted together.

The data are in the form of a matrix, with 3 columns. Each column contains the time spent doing a certain task. The rows sum to 1.

```
> temp <- matrix(runif(60, -4, 4) + 25, ncol = 3)
> rowfun <- function(row) {
+     row/sum(row) * 100
+ }
> y <- t(apply(temp, 1, rowfun))
```

Use these data to produce a plot like the one below.



4. [**hard (or at least long :)**] *Hmisc package, Frank Harrell*

The following data represent treatment-specific proportions of subjects in a number of different categories.

```
> propns <- list(sex = list(male = c(0.79, 0.75)), race = list(black = c(0.01,
+     0.05), caucasian = c(0.95, 0.94), oriental = c(0.03, 0.01),
+     other = c(0.01, 0)), smoking = c(0.38, 0.36))
```

Produce a plot like the one shown below.